UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/535,573	05/19/2005	Tetsujiro Kondo	450100-04821	7860

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EXAMINER
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ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/535,573	KONDO ET AL.
	Examiner	Art Unit	
	SATH V. PERUNGAVOOR	2624	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 September 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-11</u> is/are pending in the application.

    4a) Of the above claim(s) <u>8-11</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-7</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/19/05;07/27/07;09/24/07</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Election/Restrictions

[1]　　　Claims 8-11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Requirement for Information

[2]　　　Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

- Identification of pending or abandoned applications filed by at least one of the inventors or assigned to the same assignee as the current application that disclose similar subject matter that are not otherwise identified in the current application.

[3]　　　The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained may be accepted as a complete reply to the requirement for that item.

[4]　　　This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

Specification

[5]   Priority applications need to be cross referenced in the first page of the specification or by

filing an Application Data Sheet (ADS). See MPEP 201.11 and 37 C.F.R. 1.78.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any
> new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of
> this title.

Following is a quotation from MPEP 2106.01.I (emphasis added):

> **Data structures <u>not</u> claimed as embodied in computer-readable media are descriptive material per se and are not
> statutory because they are not capable of causing functional change in the computer.** See, e.g., Warmerdam, 33 F.3d
> at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define
> any structural and functional interrelationships between the data structure and other claimed aspects of the invention which
> permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a
> data structure defines structural and functional interrelationships between the data structure and the computer software and
> hardware components which permit the data structure's functionality to be realized, and is thus statutory.

[6]   Claim 7 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-

statutory subject matter as set forth in MPEP 2106.01.I.

- Adding the limitation of "stored on a computer-readable medium" would resolve

    this issue.

[7]   Claim 5 is rejected under 35 U.S.C. 101 as not falling within one of the four statutory

categories of invention.   Supreme Court precedent[1] and recent Federal Circuit decisions[2] indicate

that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such

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[1]   *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v.
Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).
[2]   *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

as a particular apparatus), or (2) transform underlying subject matter (such as an article or material)

to a different state or thing. While the instant claim(s) recite a series of steps or acts to be

performed, the claim(s) neither transform underlying subject matter nor positively tie to another

statutory category that accomplishes the claimed method steps, and therefore do not qualify as a

statutory process. The claims recite process steps without being tied to an apparatus/system, such as

a computer or processor.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

[8] Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Kondo et al

("Kondo") [JP 2002-223167 A]. US 2003/0152165 A1 is used as a translation.

Regarding claim 1, Kondo meets the claim limitations, as follows:

An apparatus for processing an image signal which converts a first image signal *(i.e.*

first and second decoded data) constituted of plural items of pixel data into a second

image signal *(i.e. final decoded data)* constituted of plural items of pixel data, said

apparatus comprising *[fig. 3]*: a plurality of frame memory portions *(i.e. 204)* for

storing pixel data of a plurality of consecutive frames *(i.e. first and second decoded data)*

of the first image signal together with a motion vector *(i.e. input to 156)* that

corresponds to the pixel data and lies between mutually adjacent frames *[figs. 3, 13*

and 14]; data selection means *(i.e. 31)* for selecting plural items of pixel data *(i.e. taps)* located respectively in a time directional periphery *(i.e. different frames)* and a space directional periphery *(i.e. adjacent pixels)* with respect to a target position in the second image signal *(i.e. desired pixel location in final decoded data)* based on the plurality of frames *(i.e. first and second decoded data)* stored in the plurality of frame memory portions *(i.e. 204) [figs. 3, 13 and 14; para. 0069]*; and pixel data generation means *(i.e. 35)* for generating pixel data of the target position in the second image signal *(i.e. desired pixel location in final decoded data)* by using the plural items of pixel data *(i.e. taps)* selected by the data selection means *(i.e. 31) [figs. 3, 13 and 14; para. 0074]*, wherein the data selection means selects: plural items of pixel data located in the space directional periphery *(i.e. adjacent pixels)* with respect to the target position *(i.e. desired pixel)* from the frame memory portion in which a current frame in the first image signal is stored, said current frame corresponding to a frame in which the target position in the second image signal *(i.e. desired pixel location in final decoded data)* is present *[figs. 3, 13 and 14; paras. 0069 and 0074]*; and plural items of pixel data located in the space directional periphery *(i.e. adjacent pixels)* with respect to a position obtained by performing motion compensation *(i.e. 156)* on the target position by using the motion vector stored in the plurality of frame memory portions together with the pixel data, from the frame memory portions in which frames before and after the current frame *(i.e. first and second decoded data)* are stored *[figs. 3, 13 and 14; paras. 0069 and 0074]*.

Regarding claim 2, Kondo meets the claim limitations, as follows:

The apparatus for processing an image signal according to claim 1, wherein the pixel data generation means comprises: class detection means *(i.e. 33)* for detecting a class to which the pixel data of the target position *(i.e. desired pixel location)* in the second image signal *(i.e. final decoded image data)* belongs *[fig. 3; para. 0072]*; coefficient data generation means *(i.e. 34)* for generating coefficient data for an estimation equation *(i.e. prediction equation)* that corresponds to the class detected by the class detection means *(i.e. 33) [fig. 3; para. 0074]*; and calculation means *(i.e. 35)* for obtaining, by calculations, the pixel data of the target position in the second image signal *(i.e. desired pixel location in final decoded data)* based on the estimation equation *(i.e. prediction equation)* by using the coefficient data generated by the coefficient data generation means *(i.e. 34)* and the plural items of pixel data selected by the data selection means *(i.e. 31) [fig. 3; para. 0074]*.

Regarding claim 3, Kondo meets the claim limitations, as follows:

The apparatus for processing an image signal according to claim 2, wherein the class detection means *(i.e. 33)* detects the class to which the pixel data of the target position *(i.e. desired pixel location)* in the second image signal *(i.e. final decoded image data)* belongs, by using at least the plural items of pixel data *(i.e. taps)* selected by the data selection means *(i.e. 32 and note that 31 and 32 generated the same data) [fig. 3; paras. 0070 and 0072]*.

Regarding claim 4, Kondo meets the claim limitations, as follows:

The apparatus for processing an image signal according to claim 1, wherein each of the frame memory portions has a plurality of banks *(i.e. this is an inherent feature present in RAM)*; and wherein when the frame is divided in units of major block *(i.e. macroblocks)* in which a plurality of minor blocks *(i.e. pixels)* is arranged two-dimensionally, the minor blocks located at different positions in the major block are stored in each of the plurality of banks *(i.e. inherent in image storage in RAM) [para. 0096]*.

Regarding claims 5-7, all claimed limitations are set forth and rejected as per discussion for claim 1.

Contact Information

[9]   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Sath V. Perungavoor whose telephone number is **(571)** 272-7455. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Matthew C. Bella whose telephone number is (571) 272-7778, can be reached on Monday to Friday from 9:00am to 5:00pm. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system,

see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system,

contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dated: January 2, 2009   /Sath V. Perungavoor/
                                                Examiner, Art Unit 2624
                                                Sath V. Perungavoor
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